

REMARKS

These remarks are made in response to the Office Action dated February 3, 2004. In the Office Action, the Examiner rejected claims 1-3, 20, 26, 27, 35, 36, 44, 45, 53, and 55 under 35 U.S.C. § 103(a) as being anticipated by Wu (WO 01/15451 A1) (hereinafter *Wu*) in view of Rao (U.S. Patent No. 6,594,826) (hereinafter *Rao*), in further view of Girard et al. (U.S. Patent No. 5,751,282) (hereinafter *Girard*). Claims 4, 28, 37, and 46 were rejected under 35 U.S.C. § 103(a) as being anticipated by *Wu* in view of *Rao* and *Girard*, in further view of Katayama (U.S. Patent No. 6,349,321). Claims 5, 6, 10, 12, 13, 17, 21-25, 31, 32, 40, 41, 49 and 50 were rejected under 35 U.S.C. § 103(a) as being anticipated by *Wu* in view of *Rao* and *Girard*, in further view of Hendricks (U.S. Patent No. 5,600,573). Claims 7, 8, 9, 11, 14, 15, 16, 18, 19, 30, 33, 34, 39, 42, 43, 48, 51 and 52 were rejected under 35 U.S.C. § 103(a) as being anticipated by *Wu* in view of *Rao*, *Girard* and *Hendricks*, further in view of Graves (U.S. Patent No. 5,410,344).

Independent claims 1, 26, 35, and 44 are amended to more clearly recite features of the claimed invention. Claims 1-56 remain pending in the application. For the reasons set forth below, the Applicants respectfully request reconsideration and allowance of all pending claims.

CLAIM REJECTIONS - 35 U.S.C. § 103

To establish a *prima facie* case of obviousness, there must first be some suggestion or motivation to modify a reference or to combine references, and second be a reasonable expectation of success. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. M.P.E.P. § 706.02(j) from *In Re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Where claimed subject matter has been rejected as obvious in view of a combination of prior art references, a proper analysis under § 103 requires, *inter alia*, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed device; and (2) whether the prior art would also have revealed that in so making, those of ordinary skill would have a reasonable expectation of

success. Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the Applicants' disclosure. *Amgen v. Chugai Pharmaceutical*, 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir. 1991), *Fritsch v. Lin*, 21 USPQ2d 1731 (Bd. Pat. App. & Int'f 1991). An invention is non-obvious if the references fail not only to expressly disclose the claimed invention as a whole, but also to suggest to one of ordinary skill in the art modifications needed to meet all the claim limitations. *Litton Industrial Products, Inc. v. Solid State Systems Corp.*, 755 F.2d 158, 164, 225 USPQ 34, 38 (Fed. Cir. 1985).

The examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. M.P.E.P. § 70602(j) from *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). Obviousness cannot be established by combining references without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done. M.P.E.P. § 2144 from *Ex parte Levengood*, 28 USPQ2d 1300, 1302 (Bd. Pat. App. & Inter. 1993) (emphasis added by M.P.E.P.).

Argument in Support of Allowance of Amended Independent Claims in View of Current Rejections under 35 U.S.C. § 103

Applicant respectfully asserts the rejection of independent claim 1 under 35 U.S.C. § 103(a) as being unpatentable over *Wu* in view of *Rao* and further in view of *Girard* was improper and should be withdrawn. However, to further clarify this claimed invention, claim 1 has been amended to now recite:

1. A method for generating a broadcast schedule, comprising:
broadcasting meta-data to a plurality of client systems, the meta-data including descriptions of a plurality of pieces of content that ***are in consideration for upcoming broadcasts by a broadcast operations center but may or may not be included in an actual broadcast schedule to be generated***;

receiving individual sets of client demand feedback data from at least a portion of said plurality of client systems, *each individual set of client demand feedback data comprising data indicating a client interest level in at least a portion of the plurality of pieces of content*;

maintaining a broadcast schedule queue comprising an ordered list of pieces of content that indicates relative levels of client interest in each piece of content that are derived from an aggregation of the client demand feedback data; and

selecting a batch of content comprising one or more pieces of content from a top portion of the broadcast schedule queue to be broadcast during a next broadcast schedule window based on a size of said one or more pieces of content in combination with an available bandwidth for the next broadcast schedule window. (Emphasis Added)

In the response to the office action of August 15, 2003, the applicant successfully traversed the prior rejection of claim 1 under 35 U.S.C. § 103(a) as being unpatentable over *Wu* in view of *Rao*. Accordingly, this present response will not include discussion of elements already differentiated from the teachings and suggestions of *Wu* and *Rao*. In the current Office Action, acknowledgement is made that neither *Wu* nor *Rao* disclose "in consideration for upcoming broadcasts," and then provides a discussion of what *Girard* discloses. However, this misses the applicable claim element. This element specifically recites,

"... the meta-data including descriptions of a plurality of pieces of content that *are in consideration for upcoming broadcasts by a broadcast operations center but may or may not be included in an actual broadcast schedule to be generated*." (Emphasis added)

The foregoing amended language was added to make it entirely clear the meta-data pertain to pieces of content, such as but not limited to movies, that are in consideration for upcoming broadcasts but may or may not be included in an actual broadcast schedule that will ultimately be generated in response to aggregation of client demand feedback data derived using the meta-data. A primary difference between the claimed invention and all prior art involving electronic programming guides (EPGs), such as employed by *Girard*, is that the information in an electronic programming guide concerns programming that is already scheduled to be

broadcast during specific timeslots. *Girard* adds to this the ability to review past programs (*i.e.*, programs that have already been broadcast). However, this is irrelevant to claim 1, as these programs do not concern programs that are in consideration for, but may not actually be included in, a future broadcast. While a user using *Girard's* set-top box can select a past program to receive via an on-demand request, this program is not broadcast. Streaming video data from a head end server to a single recipient in response to an on-demand request is not a broadcast of content.

As defined by the Merriam-Webster online Collegiate Dictionary (www.m-w.com), a broadcast is defined as,

Main Entry: ²**broadcast**

Function: *verb*

Inflected Form(s): **broadcast also broad-cast-ed; broad-cast-ing**

transitive senses

1 : to scatter or sow (as seed) broadcast

2 : to make widely known

3 : to transmit or make public by means of radio or television

intransitive senses

1 : to transmit a broadcast

2 : to speak or perform on a broadcast program

- **broad-cast-er** *noun*

The most common use of a broadcast is a radio or television broadcast. In each case, only a single piece of content can be broadcast on a given channel at a given point in time. Since it is desired to maximize channel usage, programming is selected such that programs in high demand are broadcast, while programs with lesser demand are not. Under embodiments of the present invention, meta-data describing programs that are up for consideration for, but may not actually be included in, a future broadcast (schedule), are broadcast to a plurality of clients. In other words, the meta-data pertain to programs for which the users may provide client demand feedback data

for – this is, a list of program options. In response to client demand feedback data that is used to identify which programs are in the highest demand, a broadcast schedule is generated. The broadcast schedule defines programs that will actually be broadcast, and the times at which those programs will be broadcast. In some cases, a portion of the programs that were up for consideration to be broadcast will not be scheduled to be broadcast (and thus, will not be broadcast).

In contrast, all of the EPG data used by *Girard* relates to one of three categories: 1) programs that have already been broadcast), 2) programs that are currently being broadcast), and 3) programs that are scheduled for a future broadcast. Thus, all of the EPG data relates to fixed broadcast schedules, and clearly does not relate to "pieces of content that are in consideration for upcoming broadcasts by a broadcast operations center but may or may not be included in an actual broadcast schedule to be generated."

In addition, no activity performed by a user of a *Girard* set-top box has any effect on future broadcast schedules. Such broadcast schedules are determined in a manner that is entirely independent of set-top box usage, and is not even discussed in the *Girard* reference.

Furthermore, the *Wu*, *Rao* and *Girard* references, either alone or in combination, do not teach receiving client demand feedback pertaining to the pieces of content in consideration for an upcoming broadcast and maintaining a broadcast schedule queue that is derived from processing the client demand feedback.

In *Wu*, the list and/or grid contains data relating to future program/segments that are to be broadcast, and the user uses input 126 to set the recording device to record the program/segments when they are broadcast. More specifically, *Wu* states, "The computer 122 can also provide the *schedule for both the broadcast streams 114 and the on demand streams 116* over the data channel 118" (page 7, lines 9-10). *Girard* provides similar information (e.g., see Figure 2) in its EPG.

Furthermore, the information in the lists and/or grid is not used for rating purposes whatsoever. In contrast, the meta-data broadcast under claim 1 are directly tied to the client

demand feedback data, as the meta-data pertain to the pieces of content in consideration for upcoming broadcasts, and the client demand feedback data relates to client demand of those pieces of content. The overall information exchange between the broadcast system and the client systems is concisely articulated in the abstract of the present application:

A method and system for periodically deriving an optimal batch broadcast schedule based on client demand feedback data from a distributed set of broadcast clients. The broadcast system includes an operation center that broadcasts meta-data to a plurality of client systems. The *meta-data describes a plurality of pieces of content that are in consideration for upcoming broadcasts* by the server. Each client receives the broadcasted meta-data from and sends back a set of client demand feedback data to the operations center, wherein the user *feedback data reflects a client's interest level in at least a portion of the pieces of content*. The feedback data, which typically may include ratings and/or relative rankings, may be user-generated, automatically-generated, or a combination of the two. The system then send a batch of content based on an aggregation of the feedback data in combination with available broadcast bandwidth and broadcast schedule window.

Claim 1 covers the server-side (*i.e.*, the broadcast operations center) operations.

The user's requests for programming under *Wu* do not relate to pieces of content in consideration for upcoming broadcasts that have already been defined (as being in consideration) by the broadcast operations center. Rather, user programming request may concern not only available program segments, but program segments that are not even available for broadcast due to their unavailability (see page 13, lines 11-15). In fact, the user may enter a "free form request" (page 10, lines 12-17) under which a user enters information via a keyboard corresponding to the request, such as "Pakistani news." This request may not correspond with any particular program, and certainly doesn't relate to pieces of content being described by meta-data.

In addition, there is nothing in either the *Wu*, *Rao* or *Girard* references that would motivate one of ordinary skill in the art to combine the teachings with respect to the use of the electronic program guide for any other purpose than its ordinary use. In other words, there would be no motivation to use information in the electronic program guide to base client demand feedback on.

Based on the foregoing arguments, the applicant respectfully asserts that the rejection of independent claim 1 over *Wu* in view of *Rao* and further in view of *Girard* is unsupported, and thus would be improper if applied to amended claim 1. Each of claim 2-25 depend either directly or indirectly from independent claim 1. Accordingly, each of claims 2-25 are patentable over the cited art for at least the same reasons as claim 1.

Independent claim 26 is an apparatus claim for performing the method of claim 1, and has been amended to more clearly recite the element of "... the meta-data including descriptions of a plurality of pieces of content that are in consideration for upcoming broadcasts but may or may not be included in an actual broadcast." Accordingly, amended independent claim 26 includes claim elements that are analogous to those recited in amended claim 1. Thus, applicant respectfully asserts that independent claim 26 is patentable over the cited art for similar reasons to those presented above in support of the patentability of claim 1. Additionally, independent claim 36 is a Beauregard claim covering software for performing the method of independent claim 1, and has been amended in a similar manner to amended claim 1. Accordingly, independent claim 36 is patentable over the cited art for similar reasons to those presented above in support of the patentability of claim 1. Furthermore, each of claims 27-35, and claims 37-43, which depend directly or indirectly from either of independent claims 26 or 36 is in condition for allowance for at least the same reason as their respective base claim.

Claim 44 is a system claim covering both the client and server side operations of the present invention. It has also been amended to reflect the amendment of claim 1. Since the server-side operations (claimed in independent claims 1, 25, and 36 above) are patentable, the combination of the client and server-side operations is also patentable for at least the same reasons supporting patentability of the server-side operations. Accordingly, each of independent claim 44, and claims 45-56 dependent thereon are patentable in view of the cited art.

With further respect to claims 3, 27, and 36, the applicant respectfully asserts that *Wu* does not teach the limitations of resetting the client demand feedback data for a given piece of content in response to a broadcast of that content such that the piece of content cannot be selected

again for a subsequent broadcast until new client demand feedback data corresponding to that piece of content is received.

The discussion cited by the examiner with respect to the rejection of claim 3 (page 12, lines 12-32) says nothing about resetting client demand feedback data for a given piece of content in response to broadcast of that content. Rather, it says the (client) request can be held for varying predetermined periods, such as a predetermined time each day. There is nothing to suggest that client demand feedback data (requests) for a given piece of content are reset once the content is broadcast. In fact, under *Wu*, the requests could be reset based on a predetermined time in a manner that is completely independent of whether content is broadcast or not.

Conclusion

Overall, none of the references singly or in any motivated combination disclose, teach, or suggest what is recited in the independent claims. Thus, given the above remarks, amended independent claims 1, 26, 36, and 44 are now in condition for allowance. The dependent claims that depend directly or indirectly on these independent claims are likewise allowable based on at least the same reasons and based on the recitations contained in each dependent claim.

If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to the allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 292-8600.

Charge Deposit Account

Please charge our Deposit Account No. 02-2666 for any additional fee(s) that may be due in this matter, and please credit the same deposit account for any overpayment.

Respectfully submitted,

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Date: April 28, 2004

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